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S Jared Pitts Schmeiser Olsen & Watts LLP 18 East University Drive #101 Mesa, AZ 85201			MA, JOHNNY	
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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/660,867

Applicant(s)

FOSTER ET AL.

Examiner

Johnny Ma

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 September 2000.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☒ Claim(s) 20 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>2</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Objections

1. Claim 20 is objected to because of the following informalities:

“a synchronizer, the bypassable synchronizer” should read “a bypassable synchronizer, the bypassable synchronizer” (line 6);

“a packet parser, the bypassable packet parser” should read “a bypassable packet parser, the bypassable packet parser” (line 8)

“data unloader, the data” should read “a data unloader, the data unloader” (line 20).

Appropriate correction is required.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1-5, 7-13, 15, and 17-18 are rejected under 35 U.S.C. 102(e) as being anticipated by Movshovich et al. (US 6,434,170 B1).

As to claim 1, note the Movshovich et al. reference that discloses a memory-based circular queue with local descriptive information to implement a storage area for filtering MPEG-2 packets that are distributed and/or processed under the control of a host microprocessor by a direct memory access mechanism. The claimed “transport multiplexor” is met by mpeg-2 transport stream demultiplexing system (Movshovich 4:64). The claimed “transport multiplexor

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selectively receiving a transport stream” is met by “satellite, cable and terrestrial demodulators to receive the transport packets” (Movshovich 5:11-13). The claimed “transport demultiplexor delivering transport stream data to a data unloader” is met by packet framer forwarding data to the PID match unit 304 (Movshovich 6:46-58). The claimed “and wherein the transport demultiplexor includes a string comparator” is met by the “PID match unit 304 locates transport packets with matching PIDs, and forwards them to the local header unit 320” (Movshovich 7:43-57). The claimed “string comparator comparing transport stream data from the data unloader to at least a portion of the compare value filter” is met by PID match unit comprising extracted PID information from the transport packets of the transport stream with known PID table entries (Movshovich 8:32-36). The claimed “and storing a destination address of the transport stream data when the compared transport stream data matches the at least a portion of the compare value filter” is met by PID match unit for locating transport packets with matching PIDs (Movshovich 7:43-57) wherein “...the counter value on path 384 represents an address index which can be used to address particular memory queues corresponding to information identified by its PID. The address index can be used by a processing unit to generate a physical memory address where the particular transport packet will ultimately be stored prior to transmission to decoding units. The use of the address index in the local header allows a destination location to be designated without the need to develop the complete address until it is necessary to actually write the transport packet to its corresponding memory queue” (Movshovich 9:48-63).

As to claim 2, the claimed “wherein the string comparator includes a compare register, wherein the compare register stores the at least one compare value filter” is met by PID match unit includes a PID table of 32 PID entries stored in RAM (Movshovich 7:58-61).

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As to claim 3, the claimed “wherein the compare register receives the compare value filter from a system processor” is met by PID match unit PID table updated by the host processor (Movshovich 7:61-62).

As to claim 4, the claimed “wherein the compare register stores a plurality of compare value filters, with each of the compare value filters compared to transport stream data corresponding to a different memory queue” is met by the PID match unit PID table of 32 PID entries (Movshovich 7:58-61) wherein an address index is used to write the transport packet to its corresponding memory queue (Movshovich 9:52-63).

As to claim 5, the claimed “wherein the string comparator includes a masking register and wherein the masking register includes at least one masking filter, wherein the at least one masking filter determines the at least one portion of the compare value filter that is compared to the transport stream data” is met by PID mask register 362 for obtaining only the relevant bits for the comparison (Movshovich 8:64 – 9:24).

As to claim 7, the claimed “wherein the string comparator includes an address register and wherein the address register stores the destination address of matching transport stream data” is met by “[u]nder a match condition, the match capture latch 380 stores the PID location address from the PID match table 366 (counter 368 value), the match information on line 390, and the PID attribute bits in the following format to be forwarded to the local header unit” (Movshovich 10:6-10) where local header unit reads the PID match attribute bits and stores the transport packet in local header latency FIFO 412 (Movshovich 10:34-59).

As to claim 8, the claimed “wherein the address register stores a plurality of destination addresses in a first-in-first- buffer” is met by the local header latency FIFO as discussed in the rejection of claim 7.

As to claim 9, the claimed “wherein the transport stream comprises an MPEG-2 transport stream” is met by the use of MPEG-2 transport streams (Movshovich 4:64).

As to claim 10, the claimed “wherein the string comparator notifies a system processor when the compared transport stream data matches the at least a portion of the compare value filter” is met by PID match unit detecting matching packets and forwarding to local header unit (Movshovich 10:6-10) wherein the system processor is notified when system processor extracts information found within the local header of each data packet for creating DMA instructions (Movshovich 13:3-11).

As to claim 11, note the Movshovich et al. reference that discloses a memory-based circular queue with local descriptive information to implement a storage area for filtering MPEG-2 packets that are distributed and/or processed under the control of a host microprocessor by a direct memory access mechanism. The claimed “front end logic” is met by “[t]he packet management circuit 300 represents the transport front end, where transport packets are received at the MPEG-2 transport demultiplexor from an input channel or demodulator unit” (Movshovich 6:40-45). The claimed “packet buffer” is met by “[g]enerally, the packet framer 302 performs packet framing and byte alignment, as well as synchronization detection. The packet framer 302 continuously searches for the MPEG synchronization byte in the header of the incoming transport data stream... The framer 302 forwards the data to the PID match unit 304” (Movshovich 6:46-65) wherein it is inherent that the packet framer temporarily store incoming data for successful

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detection of synchronization and forwarding of data to PID match unit. The claimed "video unloader" is met by DMA controller 804 and video queue (Movshovich 13:1-24). The claimed "data unloader" is met by is met by MUX 310 unloading transport stream data to PID match unit 304 comprising extracted PID information from the transport packets of the transport stream with known PID table entries (Movshovich 8:32-36, also see Figure 3). The claimed "audio unloader" is met by DMA controller 804 and audio queue (Movshovich 13:1-24). The claimed "and wherein said front logic receives the transport stream and delivers the transport stream to the packet buffer" is met by packet management circuit 300 receiving transport packets from an input channel or demodulator unit wherein packet framer, including packet buffer as discussed above, receives the transport packets for processing (Movshovich 6:40-65). The claimed "and wherein said packet buffer delivers selected transport stream video data to the video unloader and selected transport audio data to the audio unloader, and wherein the said packet buffer delivers other transport stream data to the data unloader for delivering to system memory" is met by the packet framer 302 unloading/delivering data PID match unit 304 and concatenator, as illustrated in Figure 3, wherein data is further transferred to Sky queue, analyzed, and transferred to various separate queues in memory including a video queue and audio queue by Transport DMA controller 804 (Movshovich 12:62-13:11). The claimed a string comparator including "a compare register, the compare register storing at least one compare value filter" is met by PID match unit including a PID table of 32 PID entries stored in RAM (Movshovich 7:58-61) wherein PID match unit includes comparators (Movshovich 9:30-31). The claimed "a masking register, the masking register designating at least a portion of the compare value filter" is met by PID mask register 362 for obtaining only the relevant bits for the comparison (Movshovich 8:64

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9:24). The claimed “address register” is met by “[u]nder a match condition, the match capture latch 380 stores the PID location address from the PID match table 366 (counter 368 value), the match information on line 390, and the PID attribute bits in the following format to be forwarded to the local header unit” (Movshovich 10:6-10). The claimed “wherein the string comparator compares the other transport stream data from the data unloader to the designated at least a portion of the compare value filter and stores a destination address of the other transport stream data at the address register when the compared other transport stream data matches the designated at least a portion of the compare value filter” is met by “...the counter value on path 384 represents an address index which can be used to address particular memory queues corresponding to information identified by its PID. The address index can be used by a processing unit to generate a physical memory address where the particular transport packet will ultimately be stored prior to transmission to decoding units. The use of the address index in the local header allows a destination location to be designated without the need to develop the complete address until it is necessary to actually write the transport packet to its corresponding memory queue” (Movshovich 9:48-63).

As to claim 12, the claimed “wherein the compare register receives the compare value filter from a system processor” is met by PID match unit PID table updated by the host processor (Movshovich 7:61-62).

As to claim 13, the claimed “wherein the compare register stores a plurality of compare value filters, with each of the compare value filters compared to system data corresponding to a different memory queue” is met by the PID match unit PID table of 32 PID entries (Movshovich

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7:58-61) wherein an address index is used to write the transport packet to its corresponding memory queue (Movshovich 9:52-63).

As to claim 15, the claimed “wherein the address register stores a plurality of destination addresses in a first-in-first-out buffer” is met by where local header unit reads the PID match attribute bits and stores the transport packet in local header latency FIFO 412 (Movshovich 10:34-59).

As to claim 17, the claimed “wherein the data unloader includes a queue control, said queue control controlling storage location of said first transport stream system data in system memory” is met by “[t]he data packets are transferred from the Sky Queue to the appropriate queue by the Transport DMA controller 804” (Movshovich 13:3-4).

As to claim 18, the claimed “wherein the transport stream comprises an MPEG-2 transport stream” is met by MPEG-2 transport stream (Movshovich 4:64).

4. Claims 6, 14, 16, and 19-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Movshovich et al. (US 6,434,170 B1) in further view of Temple et al. (US 2003/0147430 A1).

As to claim 6, the claimed “wherein the masking register receives the at least one masking filter from a system processor.” Note the Movshovich et al. reference discloses a PID mask register for masking to obtain only the relevant bits for the comparison (Movshovich 8:66 – 9:4). Further note, the Movshovich et al. discloses host processor updating tables for comparison purposes. Also note, the Movshovich et al. reference discloses an MPEG-2 transport stream demultiplexing system and also transport stream applications and other digital

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communication environments (Movshovich 4:55-65) wherein “many of the principles described herein may also be applied to other digital audio/video communications systems other than those defined by the MPEG standards” (Movshovich 21:57-67). However, the Movshovich et al. reference is silent as to system processor updating the masking register. Now note the Temple et al. reference that discloses a demultiplexor for receiving MPEG type signals and ATM type signals (Temple [0009]). “Where the signal received by a set top box is a narrowcast signal, the MPEG-2 TS demultiplexor receives from the ATM termination and data extraction unit, an MPEG-2 transport stream which contains data corresponding to the required video, audio etc signal only...the MPEG-2 TS demultiplexor does little more than simply pass the data from its input to its output” (Temple [0034]). Therefore, the examiner submits that it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the Movshovich MPEG-2 transport demultiplexor with PID mask register and host processing programming with the Temple et al. bypass of demultiplexing system when receiving ATM type signals for the purpose of allowing a user to receive broadcast and narrow cast signals so that users may have more control over the data being transmitted (Temple [0024-0025]) wherein the host processor programs PID mask register in manner that allows data to pass through the PID match unit.

As to claim 14, the claimed “wherein the masking register receives the at least one masking filter from a system processor.” Note the Movshovich et al. reference discloses a PID mask register for masking to obtain only the relevant bits for the comparison (Movshovich 8:66 – 9:4). Further note, the Movshovich et al. discloses host processor updating tables for comparison purposes. Also note, the Movshovich et al. reference discloses an MPEG-2 transport

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stream demultiplexing system and also transport stream applications and other digital communication environments (Movshovich 4:55-65) wherein “many of the principles described herein may also be applied to other digital audio/video communications systems other than those defined by the MPEG standards” (Movshovich 21:57-67). However, the Movshovich et al. reference is silent as to system processor updating the masking register. Now note the Temple et al. reference that discloses a demultiplexor for receiving MPEG type signals and ATM type signals (Temple [0009]). “Where the signal received by a set top box is a narrowcast signal, the MPEG-2 TS demultiplexor receives from the ATM termination and data extraction unit, an MPEG-2 transport stream which contains data corresponding to the required video, audio etc signal only...the MPEG-2 TS demultiplexor does little more than simply pass the data from its input to its output” (Temple [0034]). Therefore, the examiner submits that it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the Movshovich MPEG-2 transport demultiplexor with PID mask register and host processing programming with the Temple et al. bypass of demultiplexing system when receiving ATM type signals for the purpose of allowing a user to receive broadcast and narrow cast signals so that users may have more control over the data being transmitted (Temple [0024-0025]) wherein the host processor programs PID mask register in manner that allows data to pass through the PID match unit.

As to claim 16, note the Movshovich et al. reference discloses an MPEG-2 transport stream demultiplexing system and also transport stream applications and other digital communication environments (Movshovich 4:55-65) wherein “many of the principles described herein may also be applied to other digital audio/video communications systems other than those

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defined by the MPEG standards” (Movshovich 21:57-67). However, the Movshovich et al. reference is silent as to processing non-mpeg streams. Now note the Temple et al. reference that discloses a demultiplexor for receiving MPEG type signals and ATM type signals (Temple [0009]). The claimed “wherein the front end logic includes a bypassable packet parser, the bypassable packet parser receiving a first and second type of transport stream from the bypassable synchronizer” is met by “where the signal received by a set top box is a narrowcast signal, the MPEG-2 TS demultiplexor receives from the ATM termination and data extraction unit, an MPEG-2 transport stream which contains data corresponding to the required video, audio etc signal only...the MPEG-2 TS demultiplexor does little more than simply pass the data from its input to its output” (Temple [0034]). Therefore, the examiner submits that it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the Movshovich MPEG-2 transport demultiplexor with packet framer and synchronizer with the Temple et al. bypass of demultiplexing system when receiving ATM type signals for the purpose of allowing a user to receive broadcast and narrow cast signals so that users may have more control over the data being transmitted (Temple [0024-0025]). The claimed “the bypassable packet parser filtering the first type of transport stream data before passing to the packet buffer, the bypassable packet parser delivering second type transport stream data to the packet buffer without filtering” is met by demultiplexor pass through for ATM type signals (Temple [0034]) wherein MPEG type signals are processed by packet framer (Movshovich 5:52-60).

As to claim 19, the claimed “wherein the string comparator notifies a system processor when the compared other transport stream data matches the designated at least a portion of the compare value filter” is met by PID match unit detecting matching packets and forwarding to

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local header unit (Movshovich 10:6-10) wherein the system processor is notified when system processor extracts information found within the local header of each data packet for creating DMA instructions (Movshovich 13:3-11) wherein, as discussed above, ATM type data would pass through PID match unit to system processor for directing to proper queues for further processing.

As to claim 20, note the Movshovich et al. reference that discloses a memory-based circular queue with local descriptive information to implement a storage area for filtering MPEG-2 packets that are distributed and/or processed under the control of a host microprocessor by a direct memory access mechanism. The claimed "packet buffer" is met by "[g]enerally, the packet framer 302 performs packet framing and byte alignment, as well as synchronization detection. The packet framer 302 continuously searches for the MPEG synchronization byte in the header of the incoming transport data stream... The framer 302 forwards the data to the PID match unit 304" (Movshovich 6:46-65) wherein it is inherent that the packet framer temporarily store incoming data for successful detection of synchronization and forwarding of data to PID match unit. The claimed front end logic receiving the MPEG-2 transport stream is met by "[t]he packet management circuit 300 represents the transport front end, where transport packets are received at the MPEG-2 transport demultiplexor from an input channel or demodulator unit" (Movshovich 6:40-45). The claimed packet parser is met by packet framer 302 connected to PID match unit 304 and local header unit 320, as illustrated in Figure 3 (Movshovich). The claimed "wherein the packet parser retrieves identification information from the MPEG-2 transport stream and appends packet identification from the retrieved identification information to the MPEG-2 transport packets, the appended packet identification used identify the MPEG-2

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transport stream packets as video packets, audio packets or system data packets” is met by “[t]he local header unit 402 creates a unique ‘local’ header to be inserted at the start of each transport packet, ...[using]the PID match attributes [7:5] from path 404 to build the local header”

(Movshovich 10:60-63) wherein data packets are transferred to appropriate queues (video queue, audio queue, TTX queue, a CRC queue, and 1394 interface queue) based on information found within the local header of each data packet (Movshovich 13:1-23). Also note, the Movshovich et al. reference discloses an MPEG-2 transport stream demultiplexing system and also transport stream applications and other digital communication environments (Movshovich 4:55-65) wherein “many of the principles described herein may also be applied to other digital audio/video communications systems other than those defined by the MPEG standards”

(Movshovich 21:57-67). However, the Movshovich et al. reference is silent as to processing non-mpeg streams. Now note the Temple et al. reference that discloses a demultiplexor for receiving MPEG type signals and ATM type signals (Temple [0009]). The claimed a bypassable packet parser and bypassable synchronizer is met by “where the signal received by a set top box is a narrowcast signal, the MPEG-2 TS demultiplexor receives from the ATM termination and data extraction unit, an MPEG-2 transport stream which contains data corresponding to the required video, audio etc signal only...the MPEG-2 TS demultiplexor does little more than simply pass the data from its input to its output” (Temple [0034]). Therefore, the examiner submits that it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the Movshovich MPEG-2 transport demultiplexor with packet framer and synchronizer with the Temple et al. bypass of demultiplexing system when receiving

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ATM type signals for the purpose of allowing a user to receive broadcast and narrow cast signals so that users may have more control over the data being transmitted (Temple [0024-0025]).

The claimed “a video unloader, the video unloader receiving selected MPEG-2 video packets from the packet buffer” is met by DMA controller 804 and video queue (Movshovich 13:1-24) receiving data from packet framer 208. The claimed “an audio unloader, the audio unloader receiving selected MPEG-2 audio packets from the packet buffer” is met by DMA controller 804 and audio queue (Movshovich 13:1-24) receiving data from packet framer 208. The claimed “data unloader, the data receiving MPEG-2 system data packets and other transport stream data packets” is met by packet framer 302 unloading data to PID match unit 304 and local header unit 320, as illustrated in Figure 3 (Movshovich). The claimed “the data unloader delivering the MPEG-2 system data packets and other transport stream data packets to system memory as system memory data for processing” is met by data packets transmitted to Sky Queue for analyzing and transfer to various separate queues in memory (Movshovich 12:62-67).

The claimed a string comparator including “a compare register, the compare register storing at least one compare value filter” is met by PID match unit including a PID table of 32 PID entries stored in RAM (Movshovich 7:58-61) wherein PID match unit includes comparators (Movshovich 9:30-31). The claimed “a masking register, the masking register designating at least a portion of the compare value filter” is met by PID mask register 362 for obtaining only the relevant bits for the comparison (Movshovich 8:64 9:24). The claimed “address register” is met by “[u]nder a match condition, the match capture latch 380 stores the PID location address from the PID match table 366 (counter 368 value), the match information on line 390, and the PID attribute bits in the following format to be forwarded to the local header unit” (Movshovich

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10:6-10). The claimed “wherein the string comparator compares system memory data from the data unloader to the designated at least a portion of the compare value filter and stores a destination address of the system memory data at the address register when the compared system memory data matches the designated at least a portion of the compare value filter” is met by “...the counter value on path 384 represents an address index which can be used to address particular memory queues corresponding to information identified by its PID. The address index can be used by a processing unit to generate a physical memory address where the particular transport packet will ultimately be stored prior to transmission to decoding units. The use of the address index in the local header allows a destination location to be designated without the need to develop the complete address until it is necessary to actually write the transport packet to its corresponding memory queue” (Movshovich 9:48-63).

Conclusion

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

The Komi et al. reference (US 6,477,185 B1) discloses demultiplexing and decoding apparatus for coded audio and video data.

The Fujinami et al. reference (US 5,521,922) discloses a data demultiplexor.

The Brunheroto et al. reference (US 6,654,389 B1) discloses a system and method for searching patterns in real-time over a shared media.

The Jong reference (US 6,269,107 B1) discloses a device and method for demultiplexing transport stream.

The Xue et al. reference (US 6,711,181 B1) discloses a system and method for packet parsing and data reconstruction in an IEEE 1394-1995 serial bus network.

The Robbins et al. reference (US 2004/0004977 A1) discloses flexible filtering.


The Kovacevic et al. reference (US 6,778,533 B1) discloses a method and system for accessing packetized elementary stream data.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Johnny Ma whose telephone number is (703) 305-8099. The examiner can normally be reached on 8:00 am - 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Miller can be reached on (703) 305-4795. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

jm


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TECHNOLOGY CENTER 2600